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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

WESSMAN, ANDREW E

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 10/15/2002

9

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/783,377

Applicant(s)

SEGAL ET AL.

Examiner

Andrew E Wessman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 24 July 2002.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 21-28 and 32-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 21-28 and 32-34 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All   b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

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### DETAILED ACTION

1. Claims 21-28 remain for examination. New claims 32-34 have been added. Non-elected claims 1-20 and 29-31 have been cancelled.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claim 33 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claim limitation "size greater than or equal to 1000 millimeters" is unclear, as it is not mentioned to which size this is referring to. Size could mean any one of a side length, diameter, thickness, perimeter length, circumference, etc., and it is unclear what is meant by a "size". Clarification is required.

#### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this

Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 21 and 22 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunlop et al.

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Dunlop et al. is applied to the claims for the reasons set forth in paper No. 6, paragraph 10.

6. Claims 32 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Dunlop et al.

Dunlop et al. teaches (col. 4, lines 28-33) sputtering targets comprising aluminum and up to 10 wt% of copper, silicon, zirconium, titanium, tungsten, platinum, gold, niobium, rhenium, scandium, cobalt, molybdenum, hafnium, and mixtures thereof. This range includes applicant's claimed range of 1000ppm or less, and Dunlop et al. provides examples (col. 8, line 16 and Figs. 3 and 4) of additions as low as 0.5 wt%, which is approximate to that of applicant's claimed invention. Dunlop et al. also teaches (col. 4, lines 16-21) grain sizes of less than 20 microns for aluminum sputtering targets. Dunlop et al. also teaches (see Fig. 4) that the targets may be made by a process including casting, in this case continuous casting.

In regards to the features of claim 34, wherein the target is monolithic, Dunlop et al. shows (figs. 6-8) a process wherein a monolithic target is worked. The disclosure of Dunlop et al. is primarily directed towards the production of monolithic targets.

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

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said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 23-28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al. in view of Ueda et al.

Dunlop et al. in view of Ueda et al. is applied to the claims for the reasons set forth in paper No. 6, paragraph 12.

9. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Dunlop et al.

Dunlop et al. is discussed in above paragraph 4. Dunlop et al. does not teach making the sputtering target having a size greater than or equal to 1000mm. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make a sputtering target of the size necessary for its intended use. Change in size is insufficient to distinguish the claimed invention from the prior art. See *In re Rose*, 220 F.2d 459, 105 USPQ 237 (CCPA 1955), MPEP 2144.04 IV. Also, there is no suggestion in Dunlop et al. that the prior art disclosure would not be functional for a sputtering target size.

### ***Response to Arguments***

10. Applicant's arguments filed July 24, 2002 have been fully considered but they are not persuasive. In the remarks, applicant argues:

Dunlop et al. fails to teach applicant's claimed range of additive elements that give the claimed invention unexpected results.

With regards to applicant's argument, no evidence of unexpected results have been shown by the applicant. In order to show unexpected results, applicant should show an advantage gained by the claimed invention over the

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closest prior art. In this case, applicant should show that an unexpected result is obtained when applicant's claimed amount of 1000ppm of additive element is added to the aluminum sputtering target versus the Dunlop et al. addition of 0.5wt% of additive element to the aluminum sputtering target. Also, in order to show the use of amounts down to 100ppm of additive, the examiner has cited Ueda et al. Applicant's argument that Ueda et al. does not disclose a proper grain size because of Ueda et al.'s teaching of 0.1 to 0.5mm is not persuasive, because this overlaps applicant's end point of 100 microns or less grain size, and so the grain sizes can be the same. Therefore, using the teachings of Ueda et al. to modify Dunlop et al. would have been an obvious combination to make for one skilled in the art with a reasonable expectation of success.

### ***Conclusion***

11. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will

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the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew E Wessman whose telephone number is (703)305-3163. The examiner can normally be reached on Monday through Friday, 8:00am to 4:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (703)308-1146. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9310 for regular communications and (703)872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

AEW  
October 11, 2002

ROY KING   
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700